

HAPS

A 8" to 12" probe station
with excellent stability and
reliability.



Application

DC, RF/mmW Tests;
MEMS, NEMS, Optoelectronics Tests;
,etc.

Features

- Application oriented – Kitstart test kits provide know-how test methods and techniques for various applications.
- Highly stable and accurate – Built on a granite base with <5 micron planarity, which provides the stability and accuracy crucial to highly reliable test results.
- Slimscope and superscope – Slimscope for tests requires space besides the microscope (mmW test, etc.) and Superscope for high magnification requirements .
- Cost-effective – The most cost effective system among the products of the same grade.

Description

In order to acquire accurate and reliable test results in the cutting edge tests, one of the key factors is to use a probe station system with ultra mechanical accuracy and stability.

HAPS is built on a granite base with less than 5 micron planarity. This design not only assures the high planarity in X-Y motion but also provides a rigid and stable platform for high accuracy tests. To achieve positioning accuracy, we use precise micrometer heads to drive spring loaded X-Y axes. With an air bearing X-Y stage, user will be able to move the X-Y in coarse positioning

HAPS Probe Station

smoothly and quickly, thus greatly reducing set up time and improving test efficiency. One of the most common applications of HAPS is millimeter wave device characterization. The accuracy and stability act as an important role in protection of fragile and expensive mmW probes while producing reliable test results.

TWO Set Ups for HAPS

HAPS with a slimScope

is generally set up for High-performance RF, multi-contact/mixed signal probing, Single-ended broadband/mmWave, THz, source/load pull, RF noise probing. All these measurements requires the system to be ultra accurate and stable fo ensure reliable measurement output. SlimScope and Superscope is interchangeable.



HAPS with a Superscope

is generally set up for probing on tiny geometric structures of wafer level reliability tests, failure analysis, high power tests, etc. HAPS' intuitive manipulation enables users focus more on their measurements rather than manipulation. SlimScope and Superscope is interchangeable.



Specifications

Chuck -standard

| | |
|-----------|--------------------------|
| Diameter | 8" to 12" |
| Material | Stainless Steel |
| Plating | N.A. |
| Planarity | <5μm@Ambient Temperature |

Chuck stage -AccuStage

| | |
|-----------------------------|---------------------------------------------------|
| X-Y travel range (Coarse) | 8" to 12". Air bearing for smooth coarse movement |
| X-Y travel range (fine) | 25mm*25mm |
| Resolution | 1μm |
| Theta travel range (fine) | ±9° |
| Theta resolution | 0.0001°/deg |
| Theta travel range (coarse) | 360° |
| Z travel range | 10mm |
| Resolution | 1μm |
| Z Contact and Separation | 0~5mm |
| Z repeatability | <1μm |

Platen -standard DC application

| | |
|------------------------|---------------------------------------------------------------------------------|
| Material | Steel, Ni-Plated. |
| Space | For up to 10 DCP100 or 2 RFP100-mmW. Can be customized for more positioners. |
| Mounting Compatibility | Magnetic and vacuum mounting. |
| Height Adjustment | 45mm |
| Repeatability | <1 μ m |

Microscope

| | |
|-------------------|-------------------|
| Stereo Microscope | Steel, Ni-Plated. |
| SlimScope | 12X Zoom |
| Superscope | 20X~2000X |

*Three types of microscopes are available upon request. Magnifications of SlimScope or Superscope will vary according to objective lens.

Microscope Mounting & Movements

Rigid Bridge for Stereo microscope, Superscope or SlimScope

| | |
|-------------------------|---------------------------------------------------------------|
| X-Y travel range (fine) | 25mm*25mm, larger travel range (50mm) available upon request. |
| Resolution | 1 μ m |
| Pneumatic lift | 40mm |
| Manual lift | 50mm |

Electrical Measurement Accuracy (Current)

| Part # | Range | Accuracy |
|------------------|-----------|-----------|
| BIV | 1 μ A | rdg+10nA |
| COAX | 1nA | rdg+10pA |
| COAX-PIV | 1nA | rdg+10pA |
| TRIAx | 10pA | rdg+100fA |
| TRIAx-FemtoProbe | 1 ~ 10pA | rdg+10fA |

Electrical Performance (C-V measurement)

| | |
|-----------------|---------|
| Current leakage | <10fA |
| Frequency | >150MHz |
| Capacitance | <10fF |
| Impedance | 50 Ohm |

*Capacitance is measured by Keysight 4980A LCR. Probe station set up: IPS-COAX-AS-Stereo, DCP100(2SET), CPA-10(2SET) with 10 micron probe tips on a gold pad. 1 meter coax cable, 4-terminal-pair connection. Room Temperature 25 $^{\circ}$ C, RH<45%.

Ordering Information

HAPS-SlimScope-5X

Probe Station with AccuStage, SlimScope(5X objective).
Other magnifications available upon request.

HAPS-SuperScope-2/10/20X

Probe Station with AccuStage Superscope(2X, 10X, 20X objective).
Other magnifications available upon request.

All Rights Reserved. KeyFactor Systems, Inc.



C/ SEPTIEMBRE 31 28022 MADRID
Tel. 91 3000191 www.idm-instrumentos.es
idm@idm-instrumentos.es

KeyFactor Systems, Inc.

www.keyfactorsystems.com
sales@keyfactorsystems.com
technical-support@keyfactorsystems.com

U.S.

Add: 8825 53 AVE Elmhurst, New York, United States.
Tel: +1(347) 994-9951

China

Add: 5th FL, Sohovark, Industrial Rd. South, SSL, Dongguan.
Tel: +86(769)2223-8503
Fax: +86(769)2223-0701